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## (54) SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD THEREOF

## (57)Abstract:

PURPOSE: To separate a p plate electrode required in order to increase the charge amount accumulated in a storage node by boosting the plate electrode in a DRAM.

CONSTITUTION: A phosphorus doped polycrystalline Si film about 150nm thick is deposited on a substrate whereon a phosphorus doped polycrystalline Si film pattern and an ONO film are formed and after depositing an Si<sub>3</sub>N<sub>4</sub> film, coated with a resist film to be etched away so as to leave a resist film 14' between the phosphorus doped polycrystalline Si film patterns only. In such a constitution, the Si<sub>3</sub>N<sub>4</sub> film is etched away using the resist film pattern 14' as a mask, as well as the surface of the phosphorus doped polycrystalline Si film in depth of exceeding 20nm is oxidized using the Si<sub>3</sub>N<sub>4</sub> film 12 as a mask to form an SiO<sub>2</sub> film and finally to be etched away meeting the etching requirement for the specific etching rate exceeding 10 and using the SiO<sub>2</sub> film as a mask.

